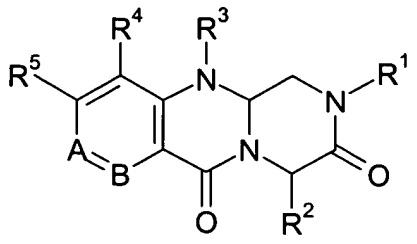
We claim

1. A compound of formula I,



I

wherein:

A is CR^6 or N;

B is CR^7 or N, provided that A and B are not simultaneously N;

R^1 is $(C_1\text{-}C_{10})$-alkyl, $(C_3\text{-}C_8)$-cycloalkyl, $(C_2\text{-}C_{10})$-alkenyl or $(C_2\text{-}C_{10})$-alkynyl, each of which is unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of halogen, cyano, $(C_3\text{-}C_8)$-cycloalkyl, phenyl, biphenylyl, naphthyl, indanyl and heteroaryl, wherein the phenyl, biphenylyl, naphthyl, indanyl and heteroaryl are each, independently, unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of halogen, cyano, $(C_1\text{-}C_6)$-alkyl, trifluoromethyl, $(C_1\text{-}C_6)$-alkoxy and trifluoromethoxy;

R^2 is hydrogen, $(C_1\text{-}C_4)$-alkyl, trifluoromethyl, $-(CH_2)_a\text{-}(C_3\text{-}C_8)$-cycloalkyl, $-(CH_2)_a$-phenyl, $-(CH_2)_a$-imidazolyl or $-(CH_2)_a$-pyridinyl, wherein the phenyl, imidazolyl and pyridinyl are each, independently, unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of halogen, cyano, $(C_1\text{-}C_6)$-alkyl, trifluoromethyl, $(C_1\text{-}C_6)$-alkoxy and trifluoromethoxy;

a is 0, 1 or 2;

R^3 is $-(CH_2)_b$-phenyl, $-(CH_2)_b$-imidazolyl, $-(CH_2)_b$-triazolyl, $-(CH_2)_b$-Het or $-(CH_2)_b$-pyridinyl, wherein the phenyl, imidazolyl, triazolyl and pyridinyl are each, independently, unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of halogen, cyano, $(C_1\text{-}C_6)$-alkyl, trifluoromethyl, $(C_1\text{-}C_6)$-alkoxy and trifluoromethoxy;

b is 1, 2, 3 or 4;

R^4, R^5, R^6 and R^7 are each, independently, hydrogen, $(C_1$-$C_4)$-alkyl, trifluoromethyl, $(C_1$-$C_4)$-alkoxy, trifluoromethoxy, halogen, nitro, cyano, -CO-R^{10}, -NR^8R^9, -NH-CO-$(C_1$-$C_4)$-alkyl, -SO_2-NR^8R^9, -SO_2-$(C_1$-$C_4)$-alkyl or -SO_2-$(CH_2)_c$-phenyl, wherein the phenyl is unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of halogen, cyano, $(C_1$-$C_6)$-alkyl, trifluoromethyl, $(C_1$-$C_6)$-alkoxy and trifluoromethoxy;

c is 0, 1 or 2;

R^8 and R^9 are each, independently, hydrogen or $(C_1$-$C_4)$-alkyl;

R^{10} is hydroxy, $(C_1$-$C_4)$-alkoxy or -NR^8R^9;

Het is a saturated 5-membered or 6-membered monocyclic heterocycle containing a ring nitrogen atom via which it is bonded, wherein the monocyclic heterocycle optionally contains a further ring heteroatom selected from the group consisting of N, O and S, and is unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of $(C_1$-$C_4)$-alkyl and -$(CH_2)_d$-phenyl, wherein the phenyl is unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of halogen, cyano, $(C_1$-$C_6)$-alkyl, trifluoromethyl, $(C_1$-$C_6)$-alkoxy and trifluoromethoxy;

d is 0, 1 or 2;

and

heteroaryl is an aromatic 5-membered to 10-membered, monocyclic or bicyclic heterocycle containing 1, 2, 3 or 4 identical or different ring heteroatoms selected from the group consisting of N, O and S;

or a stereoisomer or a mixture of stereoisomers thereof in any ratio, or a physiologically acceptable salt thereof;

provided that the compound of formula I is not the compound wherein

A is CH,

B is CH,

R^1 is methyl,

R^2 is methyl,

R^3 is unsubstituted benzyl,

R^4 is hydrogen, and

R^5 is hydrogen.

2. A compound according to claim 1, wherein:

A is CR^6 or N;

B is CR^7 or N, provided that A and B are not simultaneously N;

R^1 is $(C_1\text{-}C_6)$-alkyl, unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of $(C_3\text{-}C_6)$-cycloalkyl, phenyl, biphenylyl, naphthyl, indanyl, thienyl and pyridinyl, wherein the phenyl, biphenylyl, naphthyl, indanyl, thienyl and pyridinyl are each, independently, unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of fluorine, chlorine, bromine, cyano, $(C_1\text{-}C_4)$-alkyl, trifluoromethyl, $(C_1\text{-}C_4)$-alkoxy and trifluoromethoxy;

R^2 is hydrogen, $(C_1\text{-}C_4)$-alkyl, trifluoromethyl, $-(CH_2)_a\text{-}(C_3\text{-}C_6)$-cycloalkyl, $-(CH_2)_a$-phenyl, $-(CH_2)_a$-imidazolyl or $-(CH_2)_a$-pyridinyl, wherein the phenyl, imidazoyl and pyridinyl are each, independently, unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of fluorine, chlorine, bromine, cyano, $(C_1\text{-}C_4)$-alkyl, trifluoromethyl, $(C_1\text{-}C_4)$-alkoxy and trifluoromethoxy;

a is 0 or 1;

R^3 is $-(CH_2)_b$-phenyl, $-(CH_2)_b$-imidazolyl, $-(CH_2)_b$-triazolyl, $-(CH_2)_b$-Het or $-(CH_2)_b$-pyridinyl, wherein the phenyl, imidazoyl, triazolyl and pyridinyl are each, independently, unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of fluorine, chlorine, bromine, cyano, $(C_1\text{-}C_4)$-alkyl, trifluoromethyl, $(C_1\text{-}C_4)$-alkoxy and trifluoromethoxy;

b is 1, 2, 3 or 4;

R^4, R^5, R^6 and R^7 are each, independently, hydrogen, $(C_1\text{-}C_4)$-alkyl, trifluoromethyl, methoxy, fluorine, chlorine, nitro, $-CO\text{-}R^{10}$, $-NR^8R^9$, -NH-CO-methyl, $-SO_2\text{-}NR^8R^9$, $-SO_2$-methyl or $-SO_2\text{-}CH_2$-phenyl, wherein the phenyl is unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of fluorine, chlorine, bromine, cyano, $(C_1\text{-}C_4)$-alkyl, trifluoromethyl, $(C_1\text{-}C_4)$-alkoxy and trifluoromethoxy;

R^8 and R^9 are each, independently, hydrogen or methyl;

R^{10} is hydroxy, $(C_1\text{-}C_2)$-alkoxy or $-NR^8R^9$,

Het is a saturated 5-membered or 6-membered monocyclic heterocycle containing a ring nitrogen atom via which it is bonded, wherein the monocyclic heterocycle optionally contains a further ring heteroatom selected from the group consisting of N, O and S, and is unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of $(C_1$-$C_4)$-alkyl and -$(CH_2)_d$-phenyl, wherein the phenyl is unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of fluorine, chlorine, bromine, cyano, $(C_1$-$C_4)$-alkyl, trifluoromethyl, $(C_1$-$C_4)$-alkoxy and trifluoromethoxy; and

d is 0, 1 or 2.

3. A compound according to claim 1, wherein:

A is CR^6 or N;

B is CR^7 or N, provided that A and B are not simultaneously N;

R^1 is $(C_1$-$C_6)$-alkyl substituted by phenyl, wherein the phenyl is unsubstituted or substituted by one or more identical or different substituents selected from the group consisting of fluorine, chlorine, bromine, cyano, $(C_1$-$C_4)$-alkyl, trifluoromethyl, $(C_1$-$C_4)$-alkoxy and trifluoromethoxy;

R^2 is hydrogen, $(C_1$-$C_4)$-alkyl, trifluoromethyl or $(C_3$-$C_6)$-cycloalkyl;

R^3 is -$(CH_2)_b$-imidazolyl, -$(CH_2)_b$-triazolyl or -$(CH_2)_b$-pyridinyl, wherein imidazolyl, triazolyl and pyridinyl are all unsubstituted or substituted by one or more identical or different $(C_1$-$C_4)$-alkyl substituents;

b is 1, 2, 3 or 4;

R^4 and R^7 are each, independently, hydrogen, $(C_1$-$C_4)$-alkyl, trifluoromethyl, methoxy, fluorine or chlorine;

R^5 and R^6 are each, independently, hydrogen, $(C_1$-$C_4)$-alkyl, trifluoromethyl, methoxy, fluorine, chlorine, nitro, -CO-R^{10}, -NR^8R^9, -NH-CO-methyl, -SO_2-NR^8R^9, -SO_2-methyl or SO_2-CH_2-phenyl;

R^8 and R^9 are each, independently, hydrogen or methyl;

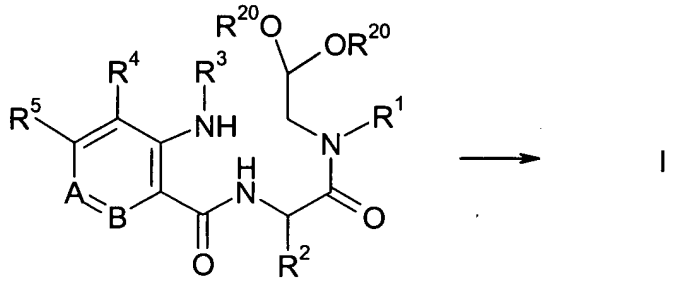
and

R^{10} is hydroxy, $(C_1$-$C_2)$-alkoxy or -NR^8R^9.

4. A compound according to claim 1, wherein:
A is CR^6; and
B is CR^7.

5. A compound according to claim 1, wherein one of A and B is nitrogen and the other is CR^6 or CR^7.

6. A process for the preparation of a compound of the formula I as defined in claim 1 or wherein one or more functional groups present therein can be in protected form or in the form of a precursor group, comprising treating a compound of the formula VI,



VI

wherein A, B, R^1, R^2, R^3, R^4 and R^5 are as defined in claim 1 or one or more functional groups present therein can be in protected form or in the form of a precursor group and R^{20} is (C_1-C_4)-alkyl, with an acid.

7. A pharmaceutical composition comprising a pharmaceutically effective amount of a compound according to claim 1 and a pharmaceutically acceptable carrier.

8. A method for the stimulation of the expression of endothelial NO synthase, in a patient in need thereof, comprising administering to the patient a pharmaceutically effective amount of a compound according to claim 1.

9. A method for the treatment of cardiovascular diseases, stable or unstable angina pectoris, coronary heart disease, Prinzmetal angina, acute coronary syndrome, heart failure, myocardial infarction, stroke, thrombosis, peripheral artery occlusive disease, endothelial dysfunction, atherosclerosis, restenosis, endothel damage after PTCA, hypertension, essential hypertension, pulmonary hypertension, secondary hypertension, renovascular hypertension, chronic glomerulonephritis, erectile dysfunction, ventricular arrhythmia, diabetes, diabetes complications, nephropathy, retinopathy, angiogenesis, asthma bronchiale, chronic renal failure, cirrhosis of the liver, osteoporosis, restricted memory performance or a restricted ability to learn, or for the lowering of cardiovascular risk of postmenopausal women or after intake of contraceptives, in a patient in need thereof, comprising administering to the patient a pharmaceutically effective amount of a compound according to claim 1.